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OF THE
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TAXONOMY
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PROCEEDINGS OF THE

ROYAL ENTOMOLOGICAL SOCIETY

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SERIES B. TAXONOMY

VOLUME 9. 1940.

OBSERVATIONS ON SPECIES OF LYCAENIDAE FROM THE MALAY PENINSULA (LEPID., RHOP.)

By A. Steven CORBET, F.R.E.S.

MOST of the LYCAENIDAE forms dealt with in the present paper constitute new subspecies from the Malay Peninsula recently obtained by Messrs. C. F. Cowan and J. N. Eliot, of the Royal Artillery, and to these gentlemen I am indebted for the loan of much valuable material.

Miletus ancon gigantes (Nic.).

Now that I have examined further specimens from Malaya, I have no longer any doubt that *gigantes* (Nic.) constitutes the Malayan and Sumatran race of *M. ancon* (Doh.), of which the nominotypical form flies in Burma, Peninsular Siam and North Malaya. The male genitalia of the two forms appear to be inseparable (Corbet, 1939, *Proc. R. ent. Soc. Lond.* (B) **8** : 30).

Celastrina melaena cowani subsp. n.

Celastrina melaena Doherty, 1889, *J. Asiat. Soc. Bengal* **58** : 434, pl. xxiii, f. 13 ♂; Tenasserim Valley.

The species was first recorded from Malaya by Corbet (1938, *Trans. R. ent. Soc. Lond.* **87** : 162). Further specimens taken by Messrs. C. F. Cowan and J. N. Eliot have shown that the Malayan form constitutes a new subspecies.

♂. *Upperside.* Differs from *melaena* Doh. ♂, from South Burma, in that the ground colour is a deeper and more purple blue, the fore-wing black costal border is narrower, there are no obscure white discal patches, and the cell-end stripes are obsolete.

Underside. As in *melaena*, except that the post-discal fasciae are rather more clearly defined, and the strigae in spaces 3, 4, 5 and 6 on the fore-wing are more prominently outlined with greyish-white.

Wing expanse 25 mm.

Holotype. MALAY PENINSULA : Johore, 36 miles N.W. of Johore Bharu, 27.ii.1938 (*C. F. Cowan*). In British Museum.

♀. *Upperside.* Differs from *melaena* Doh. ♀ in that the pale wedge-shaped streak on the fore-wing is much narrower (not half as wide), and heavily dark dusted, but is a deep shining greenish-blue in a side light.

Underside. Whiter than in the ♂, with the markings much finer and those in the basal half of the hind-wing obsolete.

Wing expanse 23 mm.

Allotype. Malay Peninsula: Johore, 36 miles N.W. of Johore Bharu, 24.xii.1938 (*C. F. Cowan*). In British Museum. A second ♀ from the same locality is smaller in size (wing expanse 16 mm.) and has no trace of the pale wedge-shaped streak on the fore-wing above.

Jamides zebra lakatti subsp. n.

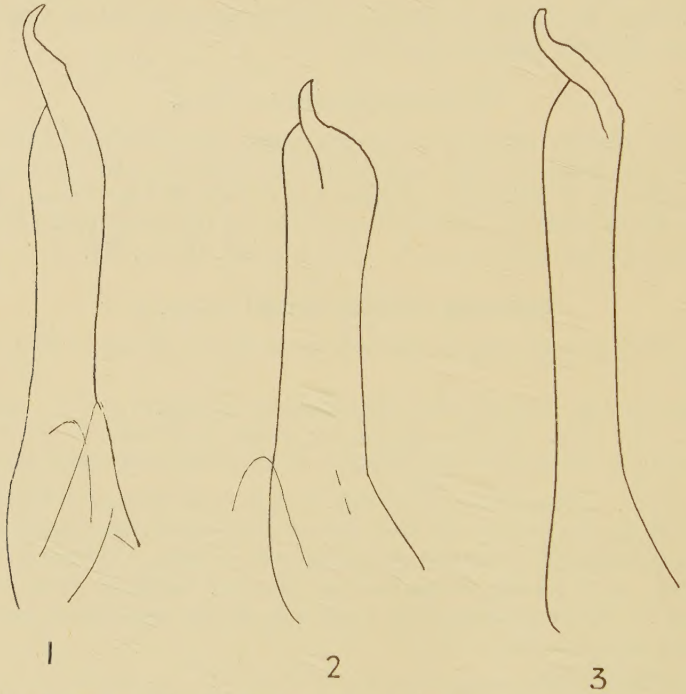
Lampides zebra H. H. Druce, 1895, *Proc. zool. Soc. Lond.* **1895**: 583, pl. xxxii, f. 18 ♂; ♂♀ Borneo.

This species has been known hitherto only from Borneo, Nias (subspecies *vaneeckei* Fruh.) and Sumatra: it is now recorded from the Malay Peninsula and from the Mentawei Islands of Siberut and Sipora.

♂. Resembles nominotypical *zebra* (H. H. Drc.), ♂, from Borneo, except for the slightly deeper blue colour of the upperside and the slightly broader fore-wing black border, which increases at the apex.

Wing expanse 33 mm.

Holotype. Malay Peninsula: Johore, Kanghar Dohol, 4.xii.1938 (*C. F. Cowan*). In British Museum.



Figs. 1–3.—Male clasper of: (1) *Jamides zebra lakatti* subsp. n. (Malaya), (2) *J. zebra lakatti* subsp. n. (Sumatra), (3) *J. zebra vaneeckei* (Fruh.) (Nias).

♀. *Upperside.* The fore-wing black border is only two-thirds as wide as in *zebra* ♀: on the hind-wing, the inner black, submarginal lunules are clearly defined and their inner edges are not broadly diffuse as in *zebra*.

Underside. Differs from *zebra* ♀ only in that the paired white submarginal lines on the fore-wing are not as broad.

Wing expanse 34 mm.

Allotype. Malay Peninsula: Johore, Kanghar Dohol, 4.ix.1938 (*C. F.*

Cowan). In British Museum, where there is a similar female *ex* Coll. Oberthür (Perak, vii.–viii.1895, *Lakatt and Pamboo*).

Jamides zebra megana subsp. n.

♂. *Upperside.* The fore-wing is slightly deeper blue than the hind-wing, otherwise it differs from *vaneeckei* (Fruh.) ♂, from Nias, in that the fore-wing black border is uniform throughout and not dilated at the apex, and the hind-wing is without black submarginal spots except in spaces 1b and 1c.

Underside. Differs from that of *vaneeckei* in that the hind-wing orange tornal area extends to space 4 and encloses a second black, semi-elliptical, submarginal spot in space 3, which is dusted with metallic scales.

Wing expanse 37 mm.

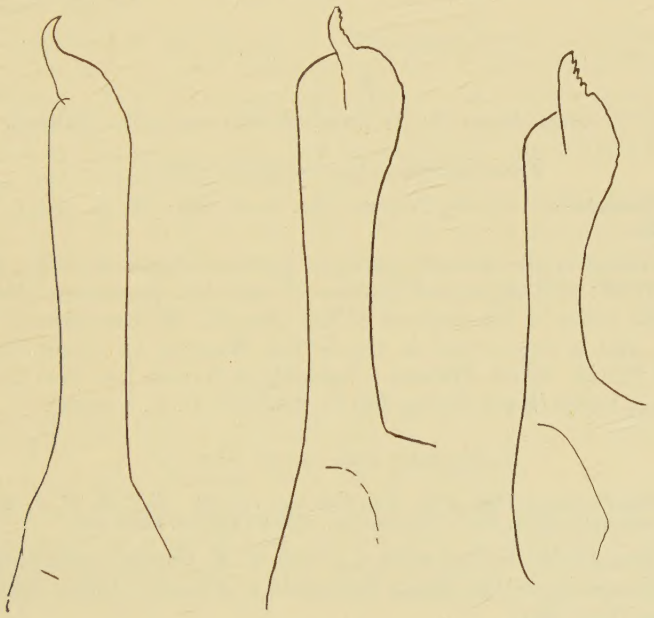
♀. *Upperside.* Pale greyish-blue, much duller and darker than in *vaneeckei* ♀, and with the fore-wing black border rather broader: the white submarginal band on this black border is more obscure.

Underside. As in the male.

Wing expanse 34 mm.

Male holotype and *female allotype.* Mentawei Islands: Siberut Island, ix.1924 (*C. B. K. & N. S.*). In British Museum.

Males from the neighbouring island of Sipora are not separable from *megana*. It will be seen from the figures that the male clasper differs according to locality, a phenomenon already noted with other *Jamides* species.



Figs. 4–6.—Male clasper of: (4) *J. zebra megana* subsp. n. (Siberut Is.), (5) *J. zebra megana* subsp. n. (Sipora Is.), (6) *J. zebra zebra* (H. H. Drc.) (Borneo).

Nacaduba aluta nanda Nic.

Considerable difficulty has been experienced in separating Malaysian females of *N. aluta* from those of *N. berenice* (H. Sch.), but it has now been found that

N. berenice ♀ has always a large, black submarginal spot in space 2 on the hind-wing above which is absent from good specimens of *N. aluta* ♀, although it may be rather faintly discerned in rubbed examples. Fig. 7 is a more satisfactory drawing of the male clasper of *N. aluta nanda* Nic. than that given previously (Corbet, 1938, *Trans. R. ent. Soc. Lond.* **87** : 146).

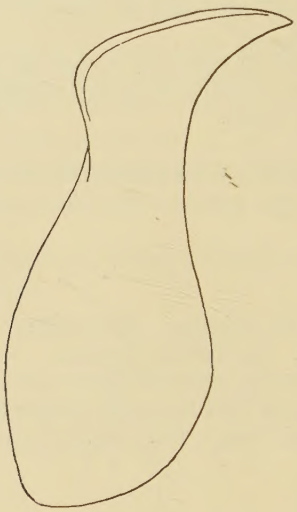


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Fig. 7.—Male clasper of: (7) *Nacaduba aluta nanda* Nic. (Malaya).

Zizeeria karsandra karsandra (Mre.).

Polyommatus karsandra Moore, 1865, *Proc. zool. Soc. Lond.* **1865** : 505, pl. xxxi, f. 7 ♀; North-west India.

In his revision of the *Zizeeria* group of genera, Chapman (1910, *Trans. ent. Soc. Lond.* **1910** : 479) separated *lysimon* (Hbn.) and *karsandra* (Mre.) as the male genitalia differ in the contour of the clasper. *Z. karsandra* is very rare in Malaysia, and is represented in the British Museum by single females from Penang and British North Borneo. Recently, a female has been taken in the Malay state of Perlis (Kaki Bukit, 300 ft., 8.i.1939, *C. F. Cowan*).

Amblypodia anita anita (Hew.).[1]

Amblypodia anita Hewitson, 1862, *Brit. Mus. Cat. Lyc.* : 14, pl. viii, f. 90, 91 ♂; Siam.
Horsfieldia narada anita Seitz, 1926, *Grossschmett. Erde* **9** : 945, pl. 148 a und.

A male from Perlis (Kolam road, 6.i.1939, *C. F. Cowan*) constitutes the first record of this species in the Malay Peninsula : it hardly differs from the male type of *anita* from Siam.

[1] It is considered that Horsfield's assertion that he considered his " third section " (comprising *apidanus* Cram., and three other species) as typical of his subgenus *Amblypodia*, 1829, does not constitute a type selection, so that the first valid type selection for *Amblypodia* was that by Boisduval, 1870, who specified *narada* Hsf. Thus *Horsfieldia* Riley 1922 (*Entomologist* **55** : 25), falls to *Amblypodia* Hsf., and *Arhopala* Bsdv., 1832 (type *phryxus* Bsdv.) must be resuscitated for the species grouped under *Amblypodia* in Seitz, **9** : 947. Mr. N. D. Riley is in agreement with this interpretation of the rules of the International Commission for Zoological Nomenclature.

Pratapa icetas sakaia subsp. n.

Iolaus icetas Hewitson, 1865, *Ill. diurn. Lep. Lyc.* : 44, pl. xviii, f. 6, 7 ♂; India (probably North-west India).

♂. *Upperside.* As in the subspecies *extensa* Evans ♂, from the Karen Hills.

Underside. Differs from *extensa* in the silvery grey ground colour and in the subtornal orange areas on the hind-wing being nearly twice as large.

Wing expanse 28 mm.

Holotype. MALAY PENINSULA: Pahang, Gunong Terbakar, 4481 feet, 4.i.1939 (*C. F. Cowan*). In British Museum.

Pratapa deva relata (Dist.).

Tajuria relata Distant, 1884, *Rhop. Malay.* : 246, pl. xxi, f. 12 ♀; Malay Peninsula.
Pratapa deva stella Corbet, 1938, *Proc. R. ent. Soc. Lond.* (B) **7** : 171; ♂, Malay Peninsula.
P. deva stella Corbet, 1938, *J. F.M.S. Mus.* **18** : 253; ♀, Malay Peninsula.

During a revision of the genus *Tajuria* Mre., it has been found that *relata* Dist. is the female of *Pratapa deva* (Mre.) and not of *Tajuria isaeus* Nic. as is usually assumed. My name *stella*, therefore, sinks to *relata* Dist.

Drina cowani nom. n.

Drina ninoda ♀ H. H. Druce, 1896, *Proc. zool. Soc. Lond.* **1896** : 680, pl. xxxi, f. 7; Borneo, Sapagaya.
Drina ninoda Seitz *nec* H. H. Druce, 1926, *Grossschmett. Erde* **9** : 987 (locality incorrectly given as " Karen Hills ").

Druce described as the female of *ninoda* the female of another species, of which the male has now been obtained in Malaya (Johore, Kota Tinggi, 3.i.1937 (*C. F. Cowan*)). The Johore specimen differs from Druce's figure in the more quadrate white spot in space 6 on the hind-wing above and in the rather narrower post-discal and submarginal fasciae on the underside, but it is possible that these differences may be due to sex rather than locality.

True *ninoda* H. H. Drc.,[2] of which the type is in the British Museum, appears to be a race of *D. donina* (Hew.)[3] and differs from the nominotypical form (Seitz, pl. 160 a 3 ♀) and from the Malayan subspecies *usira* (Feld.)[4] in the broader bands on the underside. The other Malayan species, *D. maneia* (Hew.)[5] is figured in Seitz, pl. 159 h 1 und., 2 ♀.

Suasa lisides suessa Nic.

Myrina lisides Hewitson, 1863, *Ill. diurn. Lep. Lyc.* : 33, pl. xiv, f. 28, 29 ♂; Sylhet.
Suasa suessa de Nicéville, 1892, *J. Bombay nat. Hist. Soc.* **7** : 337, pl. H, f. 8 ♂, 9 ♀; Malay Peninsula.
Suasa suessa Seitz, 1927, *Grossschmett. Erde* **9** : 980, pl. 157 h 3 ♂.

The subspecies *lisides* and *suessa* differ from each other in the same manner as do the subspecies *lisias* (F.) and *moorei* Dist. of *Marmessus lisias* (F.). In both sexes, *lisides* has a large orange discal patch on the upperside of the fore-wing, which is obsolete in *suessa*. On the underside of the fore-wing, the post-

[2] *Drina ninoda* H. H. Druce, 1895, *Proc. zool. Soc. Lond.* **1895** : 619; ♀ nec " ♂," Labuan.

[3] *Myrina donina* Hewitson, June 1865, *Ill. diurn. Lep. Lyc.* : 39, pl. xvii, f. 61, 62 ♀; Burma.

[4] *Myrina usira* Felder & Felder, Oct. 1865, *Reise Novara, Lep.* : 238, pl. xxx, f. 5, 6 ♂; Malacca Interior.

[5] *Myrina maneia* Hewitson, 1863, *Ill. diurn. Lep. Lyc.* : 29, pl. xii, f. 14, 15 ♂; ♂♀, Singapore.

discal band is broad in *lisides* and extends from the costa to space 3, while in *suessa* it is narrower, more wedge-shaped and is continued to space 2.

A female from Perlis (Kaki Bukit, 8.i.1939, *J. N. Eliot*) is referable to the subspecies *suessa* Nic.

Ticherra acte (Mre.).

Myrina acte Moore, 1857, in Horsfield and Moore, *Cat. Lep. Mus. E.I.C.* **1** : 47; ♀, North India.
Ticherra acte Seitz, 1926, *Grossschmett. Erde* **9** : 994, pl. 146 g 5 ♂, 6 ♂ und., pl. 158 h 7 ♀, 8 ♀ und.

A Perlis male (Kaki Bukit, 8.i.1939, *C. F. Cowan*), constituting the first record for Malaya, is not separable from some males (wet-season form) from Assam and Burma : these latter, however, may show subspecific differences from the nominotypical form.

Biduanda scaeva melisa (Hew.).

Myrina scaeva Hewitson, 1863, *Ill. diurn. Lep. Lyc.* : 30, pl. xv, f. 39, 40 ♂; Singapore.
Myrina melisa Hewitson, 1869, *Ill. diurn. Lep. Lyc.* : 6, pl. iii, 82, 83 ♀; Assam, Cherra Punji.
Biduanda melisa Seitz, 1926, *Grossschmett. Erde* **9** : 988, pl. 146B d 2 ♀, 3 und.

A female from the Langkawi Islands (21.i.1939, *J. N. Eliot*) agrees with the northern subspecies *melisa* : the southern race *scaeva* is figured in Seitz, pl. 159 f 2 ♂, 3 und., 4 ♀.

Rapala iarbus ocerta Fruh.

The collective species was treated as *R. melampus* (Cram.) by Corbet (1939, *Proc. R. ent. Soc. Lond.* (B) **8** : 110) : it was overlooked that *Papilio melampus* Cram., 1782, is preoccupied by *Papilio melampus* Fuessly, 1775, which is a Satyrid.

Rapala nissa pahangana Pendl. & Cbt.

Thecla nissa Kollar, 1844, *in* Hügel's *Kaschmir* **4** : 412, pl. iv, f. 3, 4; Himalayas.
Rapala nissa pahangana Pendlebury & Corbet, 1933, *J. F.M.S. Mus.* **17** : 404; ♀, Malay Peninsula.

Hitherto, only the female of this race has been known. A male from Pahang (Cameron Highlands, Gunong Terbakar, 4481 ft., 4.i.1939, *C. F. Cowan*) differs from the male of *nissa*, from North India to Burma, in the deep violet-blue upperside, which lacks an orange discal patch on the fore-wing. The underside is more heavily purple washed and the termens are more broadly shaded with rusty brown than in the female of *pahangana*. Wing expanse 31 mm.

Book Notice.

Insetos do Brasil, Tomo 1. By A. da Costa Lima. (Serie Didatica No. 2, Escola Nacional de Agronomia, Rio de Janeiro.) pp. x + 470, 218 figs. 8vo. Rio de Janeiro [1939].

This volume comprises a series of articles published in the periodical " O Campo " from August 1935 to July 1937. The first and second chapters are devoted to a discussion on the classification and nomenclature of insects and to the bibliography of entomology. Chapters 3 to 21 are concerned each with an order of insects from Thysanura to Thysanoptera.

The treatment of each order is introduced by a statement showing the characters of the order, followed by details of the external and internal anatomy, development, reproduction, economic importance, classification and literature referred to.

The book is well printed and well illustrated.

THE GENUS *PELERINUS* BOLIVAR (*ALLODAPA* BRUNNER) (ORTHOPTERA, TETTIGONIIDAE) WITH DESCRIPTIONS OF THREE NEW SPECIES

By G. M. Henry, F.R.E.S.

(*Assistant in Systematic Entomology, Colombo Museum.*)

Pelerinus I. Bolivar, 1906.

Allodapa Brunner von Wattenwyl, 1878—*Monog. Phaneropt.* : 23, 222.
—— 1891—*Addit. Monog. Phaneropt.* : 15, 111.
—— Kirby, W. F., 1906—*Syn. Cat. Orthopt.* **2** : 438.
Pelerinus I. Bolivar, 1906—*Bol. Soc. Espan. Hist. Nat.* **6** : 393.
—— Kirby, W. F., 1910—*Syn. Cat. Orthopt.* **3** : 574.
Allodapa I. Bolivar, 1912—*Trans. Linn. Soc. Lond. Zool.* (2) **15** : 274.

This genus was first described by Brunner under the name *Allodapa*, but as that name was preoccupied by *Allodapa* Diesing (1861) (Vermes), Bolivar (1906) erected the name *Pelerinus* for it; apparently he forgot this, however, for in 1912 he used Brunner's name for the genus, without explanation.

I am indebted to Dr. Uvarov for much help in preparing this paper and for drawing my attention to the synonymy mentioned above.

In Brunner's keys (1878 : 23; 1891 : 15) to the genera of Phaneropterinae this genus runs to a position in the Isopserae. It is clearly, however, not at all nearly related to *Isopsera* Brunner, with which its only important point of relationship seems to be the condition of the tibial auditory organs, which are open on both sides, as in that genus. In most of its characters, *Pelerinus* shows affinity with the Psyrae and Holochlorae. Thus, the shape and structure of the head, pronotum, and female genitalia are very like those of *Elbenia* Stål, while the male genitalia show affinity with those of *Phaula* Brunner; in facies, and in texture of tegmina, it reminds one of *Holochlora* Stål.

The generic diagnosis of *Pelerinus* may be amplified as follows :—

Form fairly stout. Antennae very slender, not very long. Head unpunctured, with occiput rounded longitudinally and transversely, fastigium of vertex deflexed, sulcate, rounded at apex, narrowly separated from the frontal fastigium, which is narrow, acute. Face tumid in front, shallowly concave on the sides. Eyes broadly elliptical, obliquely set, rather prominent. Pronotum transversely rounded, flattened on posterior lobe, truncate in front, rounded behind, its surface uneven but not punctured; with two transverse sulci, of which the first is confined to the lateral lobes, the second, broadly U- or V-shaped, is situated about the middle of the dorsum. Lateral lobes roundly inserted, nearly vertical, higher than long, rounded below, with humeral bay pronounced. Proepisternum forming a rounded ridge in front, somewhat as in *Elbenia* but less pronounced. Prosternum unarmed. Meso- and metasterna more or less transverse, their lobes rather small, rounded. Tegmina rather broad, widest near the middle, tapering distally and proximally, their apices obliquely rounded. Vein *C* feebly developed; *Sc* and *R* closely contiguous almost throughout their length; *Rs* diverging near the middle, uni- or biramous, the branches emitted not far from the apex of the tegmen; *M*1 tortuous, in most of its length nearer to *Sc–R* than to the sutural margin, giving off several branches to the latter. File-vein in the male left tegmen well developed but somewhat flattened; speculum in right tegmen but little developed; female right anal lobe with the stridulatory specialisation usual in Phaneropterinae. Microvenation forming a fairly regular and close reticulation, giving the tegmina a strong texture. Wings projecting but little beyond the closed tegmina, their campus triangularis well developed and forming the (very rounded) apex of the spread wing. Fore coxal spine

well developed. Fore femur not, or scarcely, longer than the pronotum, little compressed, rounded, its genicular lobes rounded or bluntly pointed, its outer ventral carina unarmed (or occasionally with one small spine), the inner carina with a few small, recumbent spines. Mid femur more compressed than the fore, its inner genicular lobe produced into a small cylindrical tooth (not a spine), its outer genicular lobe pointed; the inner ventral carina unarmed, the outer ventral with a few small, recumbent spines. Hind femur rounded, with both genicular lobes, but especially the inner one, produced into a cylindrical tooth, below which there is a very small spine; both ventral carinae armed with a number of small spines. Fore tibia with the auditory opening on each side open, but with a trace of an operculum on the inner one; beyond the auditory region it is dorsally flattened, feebly sulcate; inner dorsal carina unarmed, outer with 1–3 small spines; both ventral carinae with the usual row of small spines. Mid tibiae dorsally flattened or subsulcate, their outer dorsal carina unarmed, the inner dorsal and both ventral with rows of small spines. Hind tibiae and all tarsi showing no distinctive specialisation.

Male anal tergite medially produced in various forms; male cerci cylindrical, incurved, acuminate, without accessory spines or branches; male subgenital lamina specialised in various ways, without articulated styles. Ovipositor longer than the pronotum, rather evenly curved, tip acuminate, dorsal and ventral margins finely serrated, base but little swollen at the sides. Female subgenital lamina variously specialised.

Coloration almost unmarked, plain green.

The genotype, fixed by Kirby (1906), is *P. alienus* (Brunner) (1878 : 222, Pl. IV, f. 66a, b), from Ceylon, to which and the Seychelles Islands the genus is confined.

Key to the species of *Pelerinus*.

1(2). Seychellesian species . . . . . 4. *P. rostratus* (Brunner).
2(1). Ceylonese species.
3(4). Pronotum almost devoid of vestiture . . . 1. *P. planicolus* sp. n.
4(3). Pronotum distinctly pilose.
5(6). Male cerci acutely pointed; female subgenital lamina a pair of rounded, transverse plates, not produced at sides . . 2. *P. collinus* sp. n.
6(5). Male cerci truncate at tips; female subgenital lamina produced at sides into long processes (or female unknown).
7(8). Vein *Rs* uniramous, or, if biramous, the main branch forking far beyond the middle . . . . . 3. *P. monticolus* sp. n.
8(7). Vein *Rs* biramous and the main branch forking about the middle 5. *P. alienus* (Brunner).

Pelerinus planicolus sp. n.

This species is very near to *P. rostratus* (Brunner), from the Seychelles. It forms an interesting addition to the many known faunal affinities between Ceylon and the Seychelles. From *P. rostratus* it may be distinguished by the shorter, broader tegmina, shorter limbs, and by genital characters.

Head as figured; antennae reaching, when laid back, not much beyond the extended hind limbs. The pronotum has a feeble, median carina, cut about the middle by a broadly V-shaped transverse sulcus. The pronotum in this species is not hirsute. Tegmina broadest in the middle, where their width in both sexes is $1\frac{2}{3}$rds the pronotal length; vein *C* is barely distinguishable from the neighbouring minor veins; *Rs* leaves *R* well before the middle and gives off a single branch some distance proximal to the middle of its main limb (N.B. in one specimen before me, *Rs* in the left tegmen is distinctly biramous, while in the right tegmen it is uniramous; Brunner uses the biramous or uniramous condition of *Rs* as one of his key characters for discriminating between *P. alienus* and *P. rostratus*, but obviously

1

FIG. 1.—*Pelerinus planicolus* sp. n. a. Male. b. Ovipositor. c. Stridulatory area of male left tegmen. d. Female sternal plates. e. Female face.

2

Fig. 2.—*Pelerinus planicolus* sp. n. a. Male genitalia, postero-lateral. b. Female subgenital lamina, ventral. *P. collinus* sp. n. c. Male genitalia, postero-lateral (subanal plate shown separately, postero-ventral view). d. Female subgenital lamina, ventral. *P. monticolus* sp. n. e. Male genitalia, postero-lateral. f. Female subgenital lamina, ventral.

it is not a very reliable character); distally, *R* gives off a second branch. The male left stridulatory area is as figured, the right one shows a small, hyaline, elongate patch, hardly worthy to be called a speculum. The microvenation consists of a close and fairly even reticulation and the tegmina present a somewhat matt appearance. The wings project beyond the closed tegmina from one to two millimetres. They are of the general shape shown in Brunner's figure of the genotype, *P. alienus* (*Mon. Phan.* Pl. IV, f. 66).

Sternal lobes as figured. Hind femur reaching to about the second third from the base of the closed tegmina.

Genitalia. Male: the anal tergite is medially produced into a process which does not extend beyond the subgenital lamina (its counterpart in *P. rostratus* extends far beyond the subgenital lamina); this structure varies somewhat in form, some specimens having it more rounded at the tip than in the one figured, but I do not consider these variations sufficient to indicate more than varietal distinction; they may be due to contraction in drying. The supraanal plate is broadly triangular, attached to the ventral surface of the process above mentioned, deflexed between the cerci. The subgenital lamina is elongate, trough-shaped, somewhat recurved, its apex truncate with a pair of more or less pronounced lobules between the strong lateral carinae, which, although they do not bear styles, project feebly, giving the impression of very short, blunt styles. Within the genital cavity in well-preserved specimens a peculiar structure can be seen which is best described as a subanal plate; its shape is as figured.

Female: the anal tergite is truncate, feebly bisinuated; the supraanal plate, rounded-triangular, is deflexed between the cerci. The latter are much the same shape as those of the male but taper to an acute point. The ovipositor is as figured. The subgenital lamina is transversely divided in the middle by a membranous groove; the proximal portion is transverse, gibbous; the distal portion consists of a pair of small, strongly decurved, oval plates of the form figured; (the only female of *P. rostratus* in the British Museum shows a similar form of subgenital lamina).

Coloration. Both sexes are almost unmarked, dull green throughout, paler ventrally; there is a pale yellowish median line on the dorsum of head, continued throughout the length of pronotum; this varies in distinctness in different specimens. The antennae are concolorous, with no trace of annulation. The ovipositor is green at base, gradually shading into greenish ochraceous, with the tip and both margins narrowly chestnut.

Measurements in mm.:	♂. Battara-mulla. 16.xi.33.	♂. Vilapala-wewa. 17–20.ii.36.	♀. Battara-mulla. 29.v.36.	♀. Vilapala-wewa. 17–20.ii.36.
Length of body	27·0	27·0	23·0	26·0
Length of face	5·7	5·2	6·0	6·0
Width of face	3·5	3·5	4·1	4·0
Width of head across eyes	3·6	3·5	3·8	3·5
Length of pronotum	5·4	5·9	6·0	6·1
Width of posterior lobe	3·7	4·0	4·0	4·3
Height of lateral lobe	4·5	5·0	5·3	5·4
Length of lateral lobe	3·9	4·0	4·0	4·1
Length of tegmen	36·0	33·0	35·0	34·0
Width of tegmen	10·6	10·2	10·8	11·4
Length of fore femur	5·0	4·8	5·3	5·0
Length of hind femur	18·5	17·0	20·7	18·0
Length of ovipositor	—	—	12·5	12·3

Material examined all from Ceylon: 1 ♂ from Haragama, viii.1897 (coll. by E. E. Green; in Oxford University Museum); 1 ♂, Niroddumunai, near

Trincomali, 5.ii.1914; 2 ♂♂ and 2 ♀♀ from Battaramulla, Western Province (about 4 miles inland from Colombo), 19.v.1931, 17.vii. and 16.xi.1933, 29.v.1936; 1 ♂, 2 ♀♀ from Vilapalawewa, in the Resident Sportsmen's Shooting Reserve, Southern Province, 17–20.ii.1936; 1 ♀, Kekirawa, North Central Province, 9.iv.35. A ♀ from Vilapalawewa is the type, and is deposited, with a ♂ paratype from Battaramulla, in the British Museum (Natural History); with the exceptions mentioned above all specimens are in the Colombo Museum, Ceylon.

Remarks: Ovarian eggs of this species measure 4·5 × 2·0 mm.; they are of the flattened, elliptical shape common in PHANEROPTERINAE, and are dark grey in colour.

Pelerinus collinus sp. n.

Considerably smaller than *P. rostratus* or *P. planicolus*, with tegmina proportionately shorter than those of the latter and much narrower than those of *P. monticolus*, described below. The surface of the pronotum is clothed with a very fine, short, erect pubescence. The microvenation of the tegmina forms a less dense reticulum than in *P. planicolus* or *P. monticolus*, and the network is noticeably more open on the costal field than elsewhere. The anterior branch of *Rs* takes a sigmoidal course and reaches the apex of tegmen. Vein *R* gives off no main branch distal to the origin of *Rs*. The speculum in the male right tegmen shows a larger hyaline area than in the other species of the genus. The stridulatory field in the left tegmen is relatively shorter, and broader than in *P. planicolus*, and the sinuations on its margin are deeper. The genicular lobes of all femora are pointed and the inner ones of mid and hind legs are produced into long, cylindrical teeth, below which there is a minute spinule (fig. 3).

Genitalia. Male: these are shown in fig. 2, but the following points, not easy to illustrate, may be noted. The supraanal lamina is quite reflected inside the anal atrium; it is transversely triangular and appears to be of membranous texture. The subanal plate, of the shape figured, is situated between the cerci. The subgenital lamina is of very aberrant structure, consisting of a pair of sclerotised rods, widely separated medially by membrane; each rod is long, cylindrical, decurved; thickened and somewhat compressed in its distal half, terminating in a very acute, sclerotised point.

Female: the anal tergite is truncate and bears a pair of short, spinous, decurving processes above the supraanal plate. The ovipositor is much shorter and more sharply curved in this species than in any of the others. The subgenital lamina is as figured.

Measurements in mm.:	♂. Labugama. 15.ix.31.	♂. Deniyaya. 2.i.39.	♀. Ratnapura. 30.iv.31.	♀. Deniyaya. 2.i.39.
Length of body, *ca.*	23·0	19·0	22·0	25·0
Length of face	5·0	5·0	5·1	5·3
Width of face	3·3	3·3	3·4	3·5
Width of head across eyes	3·5	3·35	3·4	3·5
Length of pronotum	4·8	4·9	5·0	5·0
Width of posterior lobe	3·25	3·25	3·4	3·4
Height of lateral lobes	4·25	4·2	4·3	4·25
Length of lateral lobes	3·6	3·3	3·5	3·5
Length of tegmen	27·0	28·0	26·5	26·0
Width of tegmen	7·2	7·1	8·0	7·6
Length of fore femur	4·6	5·0	5·1	5·2
Length of hind femur	18·0	17·0	18·5	18·2
Length of ovipositor	—	—	8·2	8·2

Coloration. Almost uniform, rather dull green in both sexes; the antennae are green basally, shading to dark brown, with no trace of annulation. Fresh, and well preserved, specimens show the following whitish marks: a median, dorsal line on head, continued throughout the length of pronotum; a sinuated, somewhat broken line along the position of lateral carinae of pronotum; some indefinite spots and lines on lateral lobes. There is a small, semitransparent spot on each side of posterior lobe of pronotum, in line with the humeral bays. The ovipositor is green, with the dorsal and ventral margins narrowly chestnut.

Material examined all from CEYLON: 1 ♂ from Labugama, Western Province, 15.ix.1931; 1 ♀ from Ratnapura, 30.iv.1931; 1 ♂, 3 ♀♀, from Deniyaya, Southern Province, 2.i.1939. The ♂ from Deniyaya is selected as type, and, with a ♀ from the same locality, it will be deposited in the British Museum (Natural History); the remaining paratypes belong to the Colombo Museum, Ceylon.

Remarks: All the specimens were captured in hilly, forested country of high rainfall, at elevations from 600 to 1600 feet. The Deniyaya specimens were taken among low herbage on a hillside. They were kept alive in Colombo for several weeks, being fed mainly on flowers, such as *Hibiscus, Osbeckia* etc., but nothing of interest was noted concerning their habits.

Pelerinus monticolus sp. n.

This species undoubtedly belongs to the same group as *P. alienus* (the genotype), and is probably only a subspecies of the latter; the only male, however, differs rather strongly in measurements from Brunner's specimen and does not agree with his description and figures in certain important respects, so that, while his ridiculously brief description (two lines, plus measurements!) leaves plenty of scope for elastic interpretation, I feel that the only satisfactory course is to treat my specimens as a full species.

Rather larger than *P. collinus*, smaller than *P. planicolus*, with relatively short and broad tegmina which are more polished than in either of those species. The pronotum is clothed with a fine, erect pubescence, more pronounced than in *P. collinus*. The meso- and metasternal plates are more transverse than in *P. planicolus*, their lobes much more widely separated in the middle. The tegmina have their microvenation forming a very close reticulum, which is scarcely less dense on the costal field than elsewhere. Owing to this dense reticulum, the main veins are less easy to follow than in the other species. *Rs* is generally uniramous, but some specimens have the main branch forking again towards the end in one tegmen (none of the specimens before me has the main branch forking about the middle as shown in Brunner's figure of *P. alienus*, and in none of them is *Rs* biramous in both tegmina); the main branch, whether forked or not, runs to the sutural margin, not reaching the tip of tegmen. Distal to the insertion of *Rs*, vein *R* gives off one or two short branches, the stridulatory field of left tegmen is relatively shorter and broader than in *P. planicolus*, and the sinuations on its margin are deeper. The wings extend less than 1 mm. beyond the closed tegmina.

All the genicular lobes are pointed, those of the mid and hind femora, especially the inner lobes, produced into cylindrical processes (not true spines).

Genitalia. Male: the anal tergite, sinuated above the bases of cerci, is medially produced into a single, decurved, spine-like process; below the base of this process, the broadly triangular supraanal plate is attached and is reflected into the anal atrium (in the only male available). The cerci are cylindrical, recurved, tapering until the middle, then slightly enlarged, their tips truncate in a manner suggestive of a horse's hoof. The subgenital lamina is broad at base, with sides thickened and converging, produced into long, tapering,

very acute processes separated by a rounded emargination; in the present specimen the tips of the two processes cross; they are not cylindrical but roughly triangular in section.

Female: the anal tergite, in the only female which is sufficiently well preserved for study in this respect, is transverse, bi-emarginate; the supraanal plate is transversely elliptical; the ovipositor is similar in general shape to that of *P. planicolus*, but slightly more strongly curved; the subgenital lamina is as figured; it is strongly rounded from side to side; the distal processes and median lobe vary slightly in length in different specimens.

Coloration: in life, green, but all available specimens have faded to an ochreous shade; there is a fine, pale median line on occiput and pronotum as in *P. planicolus* and *P. collinus*.

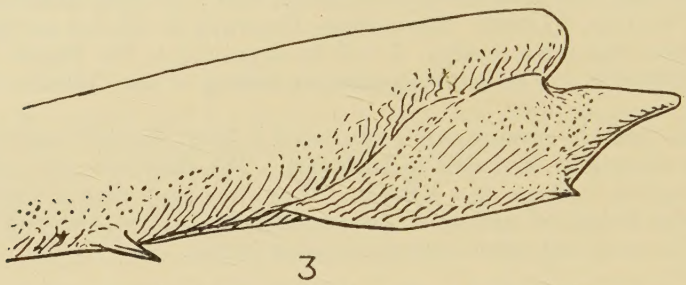

FIG. 3.—*Pelerinus collinus* sp. n. right inner hind genicular lobe.

Measurements in mm.:	♂. Haputale. 18.vi.26.	♀. W. Haputale. 10.vi.36.	♀. Punduloya. "8."
Length of body, *ca.*	20·0	25·0	21·0
Length of face	4·5	5·7	5·0
Width of face	3·65	4·0	3·8
Width of head across eyes	3·5	3·8	3·6
Length of pronotum	4·8	5·3	5·2
Width of posterior lobe	3·9	4·2	4·0
Height of lateral lobes	4·0	4·5	4·5
Length of lateral lobes	3·25	3·6	3·3
Length of tegmen	27·5	28·6	28·5
Width of tegmen, a little beyond middle	9·0	10·2	10·0
Length of fore femur	5·0	5·7	5·9
Length of hind femur	18·2	19·3	19·9
Length of ovipositor	—	11·3	11·0

Material examined all from CEYLON: 2 ♀♀ in the Oxford University Museum labelled "Punduloya, Ceylon" "4" and "8" respectively, collected by E. E. Green; 1 ♂ (type) collected by me at Haputale, 4700 feet, 18.vi.1926; 1 ♀ from West Haputale Estate, Ohiya, 10.vi.1936, presented to the Colombo Museum by Mr. A. C. Tutein-Nolthenius. All the localities are situated on the main mountain massif of Ceylon, between 4000 and 6000 feet. The type will be deposited in the British Museum (Natural History).

Pelerinus rostratus (Brunner).

Allodapa rostrata Brunner, 1878, *Mon. Phan.*: 222.
—— Kirby, 1906, *Syn. Cat. Orthopt.*: 438.
—— Bolivar, I., 1912, *Trans. Linn. Soc. Lond.* (2) **15**: 274.

I have examined the material of this species in the British Museum collected by the Percy Sladen Trust Expeditions, 1905 and 1908–9, which was determined

by I. Bolivar (*loc. cit.*). As already remarked (p. 8), it is very close to *P. planicolus*, described above, but differs in the following points : limbs averaging considerably longer; tegmina longer and relatively narrower; their texture is different, due to the coarser microvenation, with fewer and larger areoles; hind genicular lobes more acutely produced, resembling in this respect *P. collinus*; the anal tergite is produced into a long, feebly recurved process, swollen ventrally soon after the base, thence, in side view, tapering to the bluntly rounded apex; in dorsal view it is nearly parallel-sided, medially sulcate, rounded-truncate or feebly emarginate at apex, which is well distal to the subgenital lamina. The latter is similar to that of *P. planicolus* in general form, but is triangularly emarginate at apex.

Female genitalia almost exactly similar to those of *P. planicolus*; in this connection it is necessary to point out that Bolivar's description of the female subgenital lamina is misleading, as, owing to dirt on the specimen obscuring the parts, he has failed to notice the pair of small, decurved, distal lobes, which are distinctly present, as in *P. planicolus*. (Bolivar states that there are four specimens in the Percy Sladen Trust Expedition's collections, " of which two are females "; actually, the material in the British Museum from these Expeditions comprises five specimens (one being a larval male), and only one of them is female.) An adult male from Silhouette Id. differs from the other specimens, all from Mahé, in being considerably larger, with much longer tegmina and wings, but it does not appear to differ in genitalia; probably it represents a distinct subspecies.

Pelerinus alienus (Brunner).

Allodapa aliena Brunner, 1878, *Mon. Phan.* : 222, pl. IV, f. 66, a, b.
—— Brunner, 1891, *Addit. Mon. Phan.* : 111.
—— Kirby, 1906, *Syn. Cat. Orthopt.* : 438.

It is unfortunate that no specimen of this species, the genotype, is available for study, but from the original description it would seem to differ from *P. monticolus* only in details of measurement, in the biramous condition of vein *Rs*, and in the tenth male tergite. Brunner does not mention the acute spinous process of the latter which is present in *P. monticolus*; he refers, however, to the " Lamina supraanalis ♂ deflexa, acuminata," and figures a triangular median appendage to the anal tergite which may represent the true supraanal plate or may be a process of the anal tergite similar to that found in *P. monticolus*—mistaken by Brunner for the supraanal plate.

It seems probable that the ♀ specimen in the Dohrn collection mentioned by Brunner (1891 : 111) is not conspecific with his ♂ type (1878 : 222). He gives " Penang or Ceylon " as the locality of this specimen, but it is most unlikely that the former locality is correct as no specimen of the genus has since turned up anywhere except in Ceylon and the Seychelles Islands.

A NOMENCLATURAL NOTE (COLEOPT.)

By Gilbert J. Arrow, F.R.E.S.

(*British Museum (Natural History)*.)

I described in 1904 (*Trans. ent. Soc. Lond.* **1904** : 740) a genus of Lamellicorn Coleoptera, representing an unknown group, and gave it the name *Idiostoma*. It has been brought to my notice that this name was used for a genus of Lepidoptera in 1882. A new name must therefore be found for the beetle genus and I now propose to call it **Allidiostoma** nom. n. I used the name Idiostominae for the new group, but, as it is now customary to regard as distinct families the main subdivisions of the great body of insects formerly called the Scarabaeidae, this little group will become the family Allidiostomidae. A list of the four South American species recognised as belonging to the family is given in 1909, *Trans. ent. Soc. Lond.* **1909** : 502, and six are enumerated in 1912, Junk, *Coleopt. Cat.* **43** : 35.

Book Notice.

The North American Bees of the genus *Osmia* (Hymenoptera : Apoidea). By Grace A. Sandhouse. (*Mem. ent. Soc. Washington* **1** : 1–167, 278 figures.) 8vo. Washington, 1939.

This volume beund in cloth is the first of the memoirs to be issued by the Entomological Society of Washington.

It is a revision of the genus *Osmia* of which some 130 species are recognised by the authoress.

A key to the nearctic genera of Osmiinae is given, and a key to the subgenera of *Osmia*. A key to the species of each subgenus is also given.

The species are dealt with in full, and a great deal of new synonymy is established; the number of species being reduced from 280 to 130.

A large number of illustrations is given, showing anatomical details for all the species.

A list of 13 species not definitely placed, and one of 14 species wrongly referred to *Osmia*, is given.